

Malawi's First Dietetics Program:

Lessons from a multi-pronged approach to building human and institutional capacity for nutrition

Dr. Bernadette Chimera-Khombe, MBBS

Dr. Lynne M. Ausman, D.Sc., R.D.

Sanele Nkomani, MS, R.D.

Feed the Future Innovation Lab for Nutrition





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

WELCOME TO ZOOM WEBINAR

If you are unable to hear, connect your speakers by selecting “Join Audio”

Please use the chat box to introduce yourselves and share thoughts and comments by sending a message to “All panelists and attendees”

Join Audio

Q&A

Chat

Leave

Zoom Group Chat

To: All panelists and attendees

Type message here ...

The image shows a Zoom webinar interface. The main video area is black. On the right is a 'Zoom Group Chat' window. At the bottom is a toolbar with icons for 'Join Audio', 'Q&A', 'Chat', and a red 'Leave' button. Two orange callout boxes with arrows point to the 'Join Audio' icon and the 'All panelists and attendees' option in the chat window. The text 'If you are unable to hear, connect your speakers by selecting “Join Audio”' is overlaid on the video area. The text 'Please use the chat box to introduce yourselves and share thoughts and comments by sending a message to “All panelists and attendees”' is overlaid on the chat window.

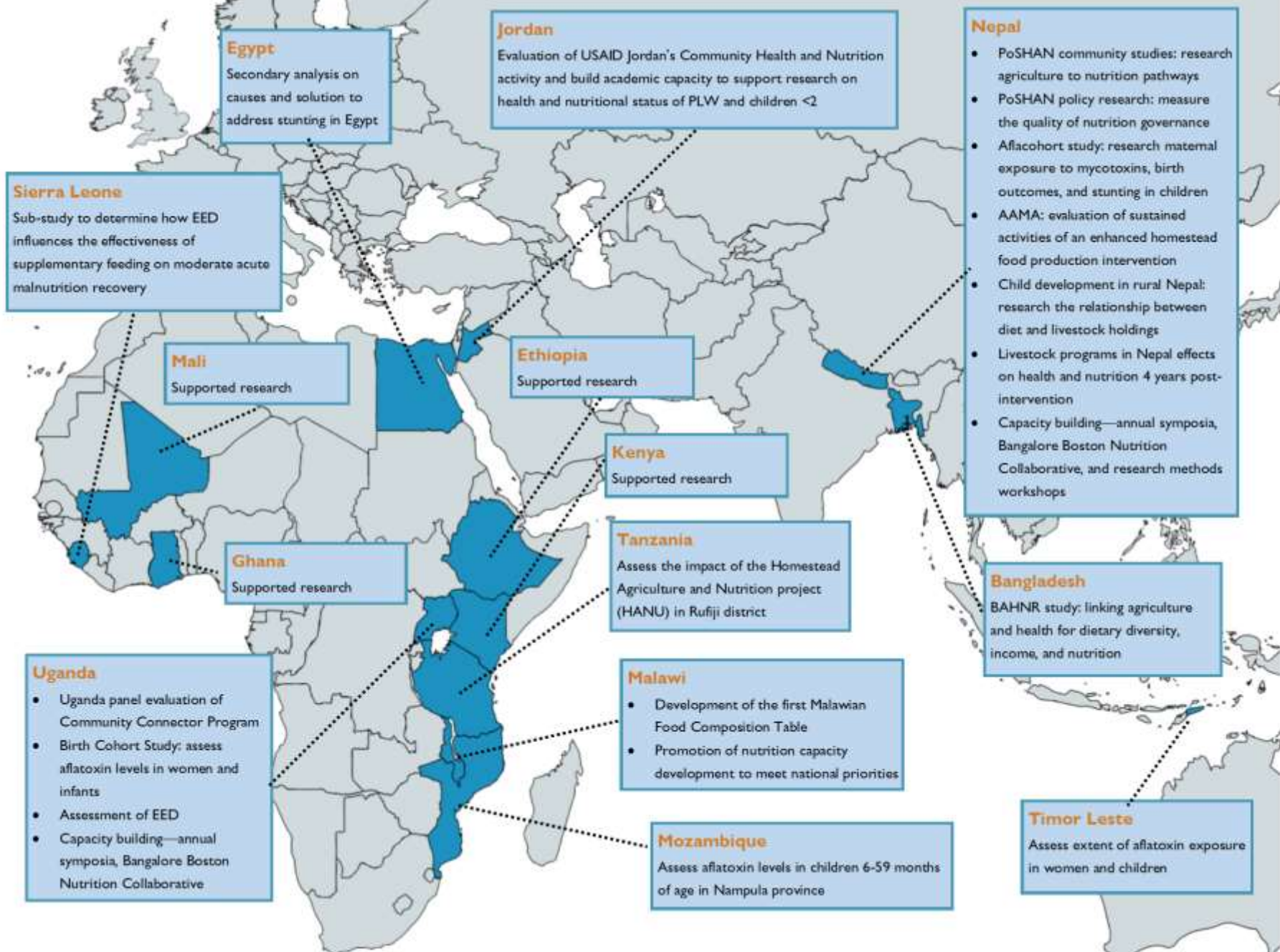
For a better Zoom Webinar Experience, download the Zoom app to your device at <https://zoom.us/support/download>



Q&A AND CHAT

Submit your questions for the panelists in the Q&A box

The screenshot displays a Zoom meeting interface. On the left, a dark sidebar contains icons for 'Audio Setting', 'Q&A', and 'Chat'. The 'Q&A' icon is circled in orange, with an orange arrow pointing to a 'Q&A' window. This window has a title bar with 'Q&A' and a close button, and contains a 'Welcome' message with a gold medal icon, the text 'Feel free to ask the host and panelists questions', and a text input field labeled 'Type your question here...'. On the right, a 'Zoom Group Chat' window is shown. It contains a blue text instruction: 'If you're having any technical difficulties, please send a message to "All panelists" via the chat box and we will do our best to help resolve your issue'. Below this text, a dropdown menu is open, showing 'All panelists' (selected with a checkmark) and 'All panelists and attendees'. The 'To:' field is set to 'All panelists', and there is a text input field labeled 'Type message here ...'. A blue circle highlights the chat window, with a blue arrow pointing from the 'All panelists' selection to the blue text instruction above it. A red 'Leave' button is visible at the bottom right of the Zoom interface.





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

GLOBAL AND LOCAL PARTNERS





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

U.S. GOVERNMENT PARTNERS





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

COLLABORATORS AND SUPPORT

Global

University of Cape town, South Africa

North West University, South Africa

South African Medical Research Council, South Africa

Malawi

Core partnership

Lilongwe University of Agriculture and Natural Resources (LUANAR)

University of Malawi, College of Medicine (COM)

Other partners

Government of Malawi, Department of Nutrition, HIV and AIDS

Government of Malawi, Ministry of Health, Department of Clinical Services

Strengthening Agriculture and Nutrition Extensions in Malawi (SANE);

Baylor College of Medicine, Malawi.

Medical Council of Malawi

The Food and Nutrition Technical Assistance (FANTA) – FHI 360



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

WEDNESDAY, OCTOBER 7TH,
9:00AM - 10:30AM (ET)



ELIZABETH MARINO-COSTELLO

Tufts University



LYNNE M. AUSMAN

Tufts University



TINNA MANANI

Lilongwe University of Agriculture
and Natural Resources (LUANAR)



JOHN PHUKA

University of Malawi,
College of Medicine



BERNADETTE CHIMERA-KHOMBE

Tufts University



SANELE NKOMANI

Tufts University



ALEXANDER KALIMBIRA

Lilongwe University of Agriculture
and Natural Resources (LUANAR)



JANET GUTA

Ministry of Health - Malawi,
Department of Clinical Services

INNOVATION LAB FOR NUTRITION WEBINAR SERIES

Malawi's First Dietetics Program:

Lessons from a multi-pronged
approach to building human and
institutional capacity for nutrition



USAID
FROM THE AMERICAN PEOPLE



GERALD J. AND DOROTHY R.
Friedman School of
Nutrition Science and Policy



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



STATE OF NUTRITION IN MALAWI

Dr Bernadette Chimera-Khombe, MBBS

Clinical Coordinator for the Feed the Future Innovation Lab for Nutrition and USAID supported, collaborative postgraduate Clinical Dietetics program at Lilongwe University of Agriculture and College of Medicine, Malawi





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

WHY PRIOTITIZE NUTRITION IN MALAWI?

NUTRITION IS ESSENTIAL FOR THE SUCCESS OF ALL THE SDGs

Optimal nutrition is essential for achieving several of the Sustainable Development Goals, and many SDGs impact nutrition security. Nutrition is hence linked to goals and indicators beyond Goal 2 which addresses hunger. A multisectoral nutrition security approach is necessary for success.

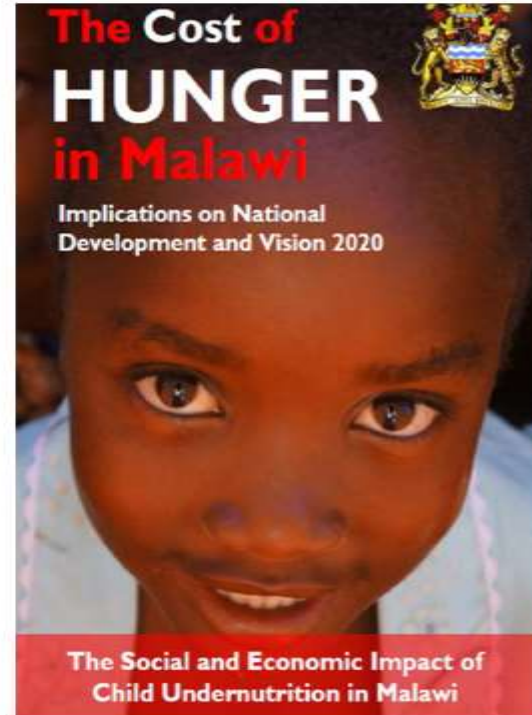


USAID
FROM THE AMERICAN PEOPLE



COST OF MALNUTRITION

- In 2012 alone, USD 597 million was lost due to health, education, productivity losses
- Equivalent to 10.3% of GDP

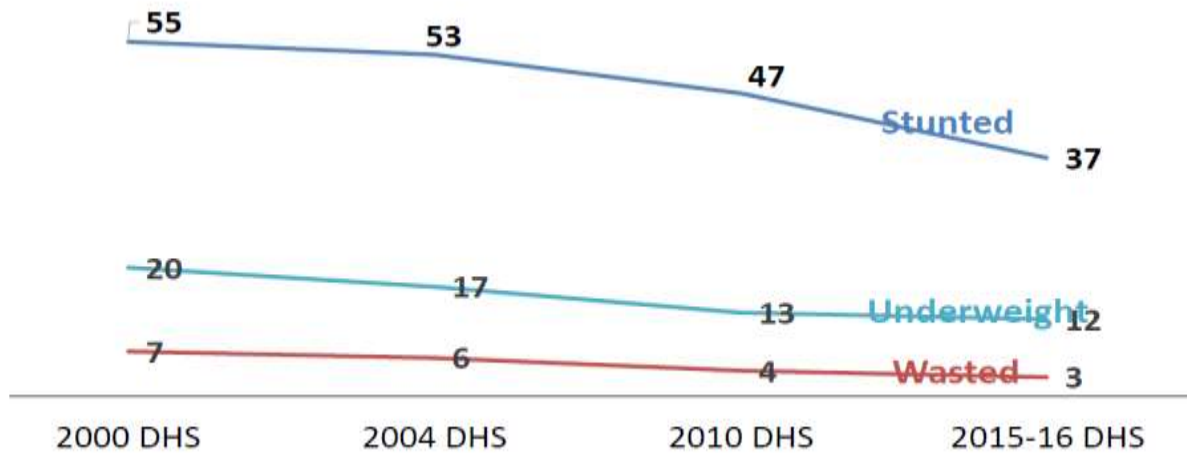


MALAWI'S PROGRESS IN NUTRITION

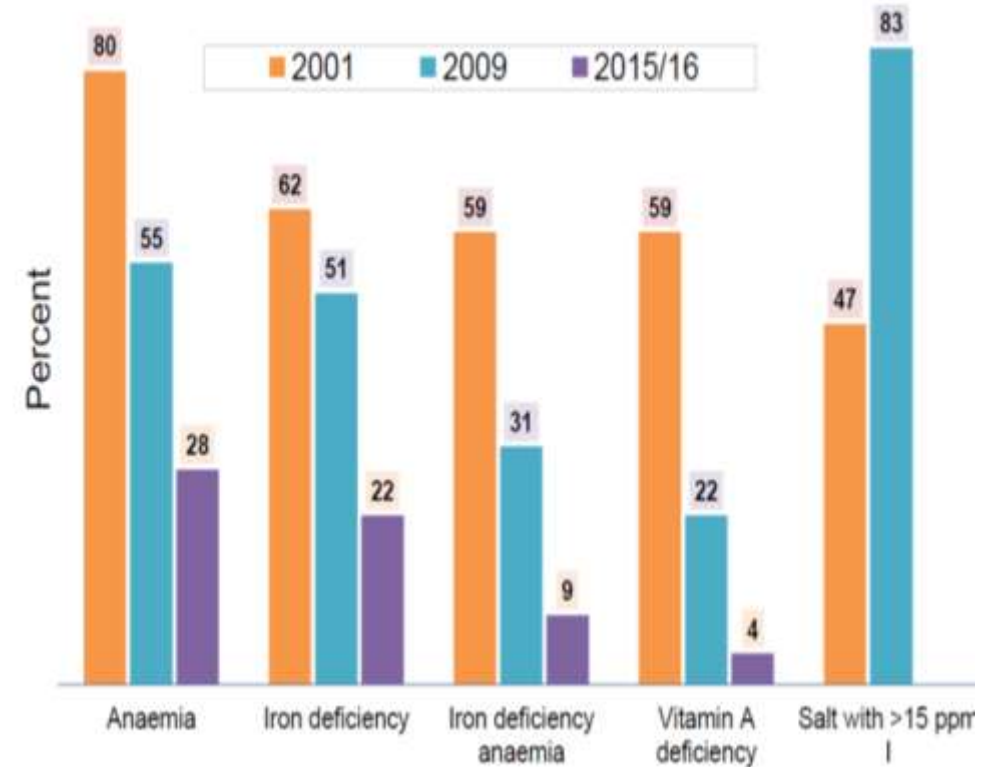


Trends: Under-five nutritional status

Percent of children under 5



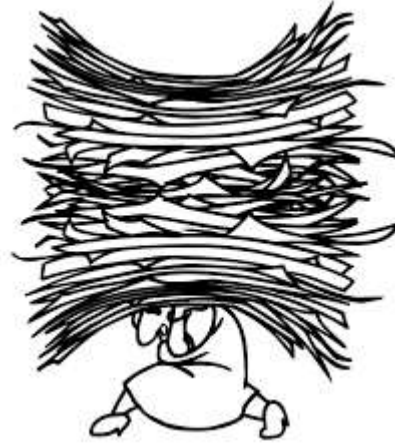
Trends: Hidden hunger





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



PERSISTENT AND EMERGING CHALLENGES



Non-Communicable Diseases (NCD) are a problem for everyone

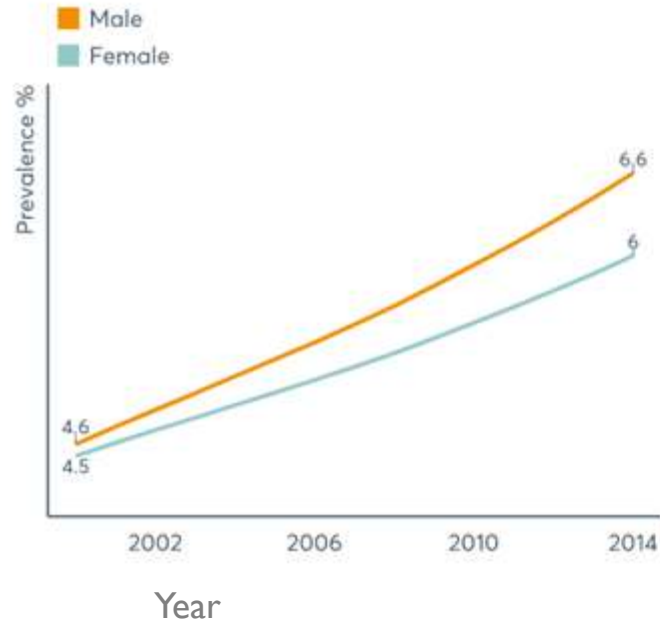
*“The notion that NCDs and their risk factors are problems of urban people is a misconception.
“(Msyamboza et al. 2011)*

“Our findings show that hypertension, diabetes and overweight and obesity are highly prevalent in urban rural adult Malawians, from a young age, despite it being a low-income country affected by under-nutrition and food insecurity” (Price et.al, 2018)

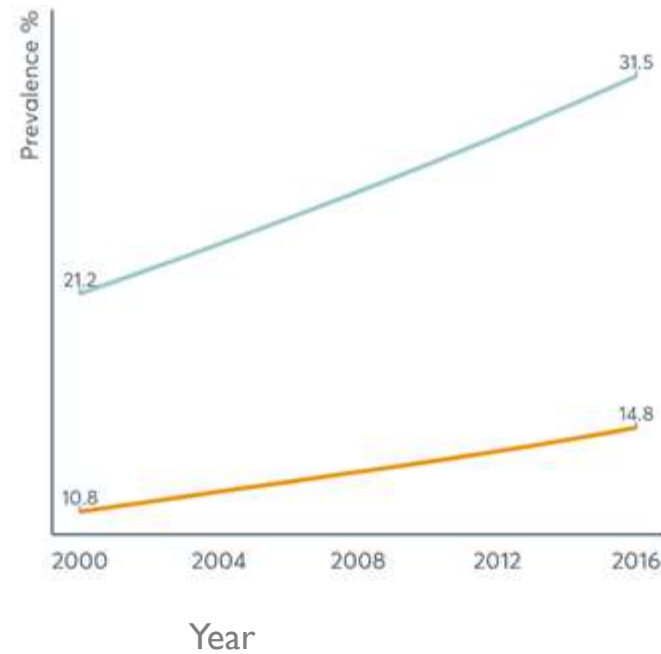


ADULT NUTRITION STATUS IN MALAWI

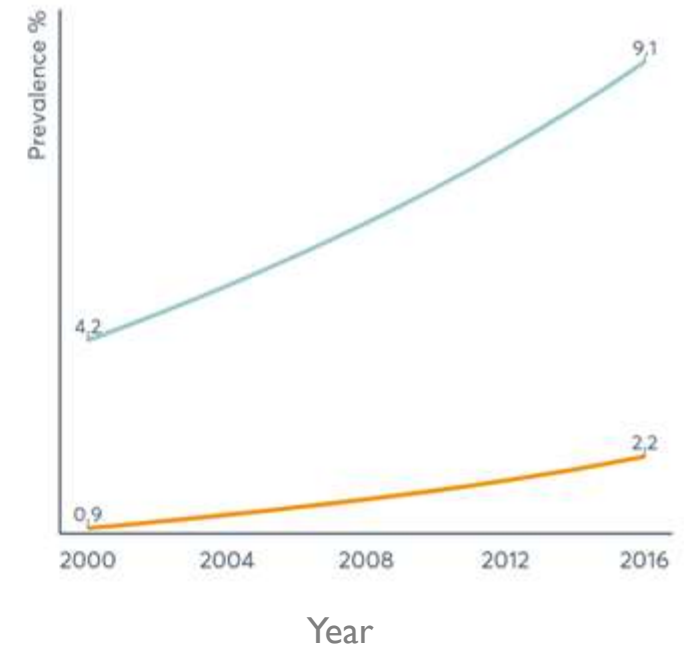
Diabetes by sex



Overweight by sex



Obesity by sex



Source: <https://globalnutritionreport.org/resources/nutrition-profiles/africa/eastern-africa/malawi/>

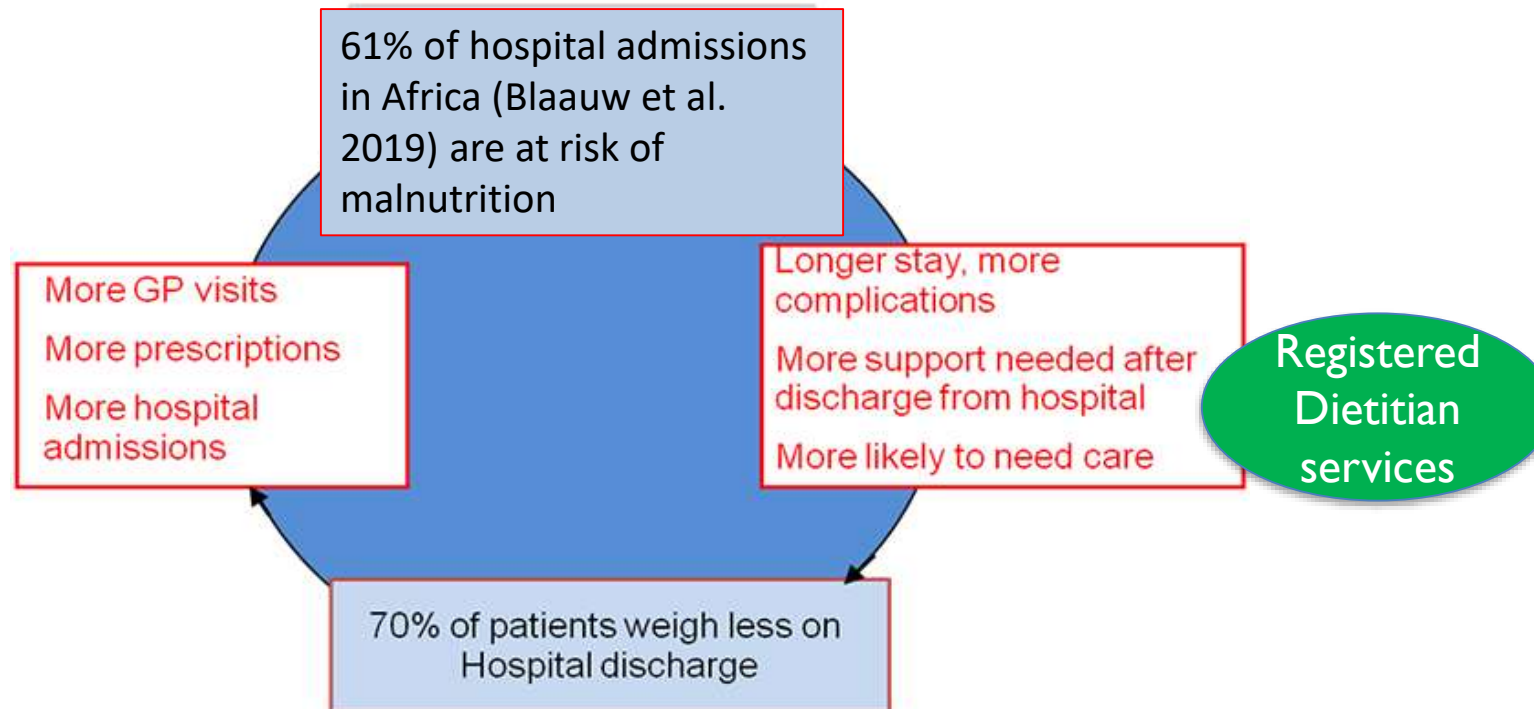


FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

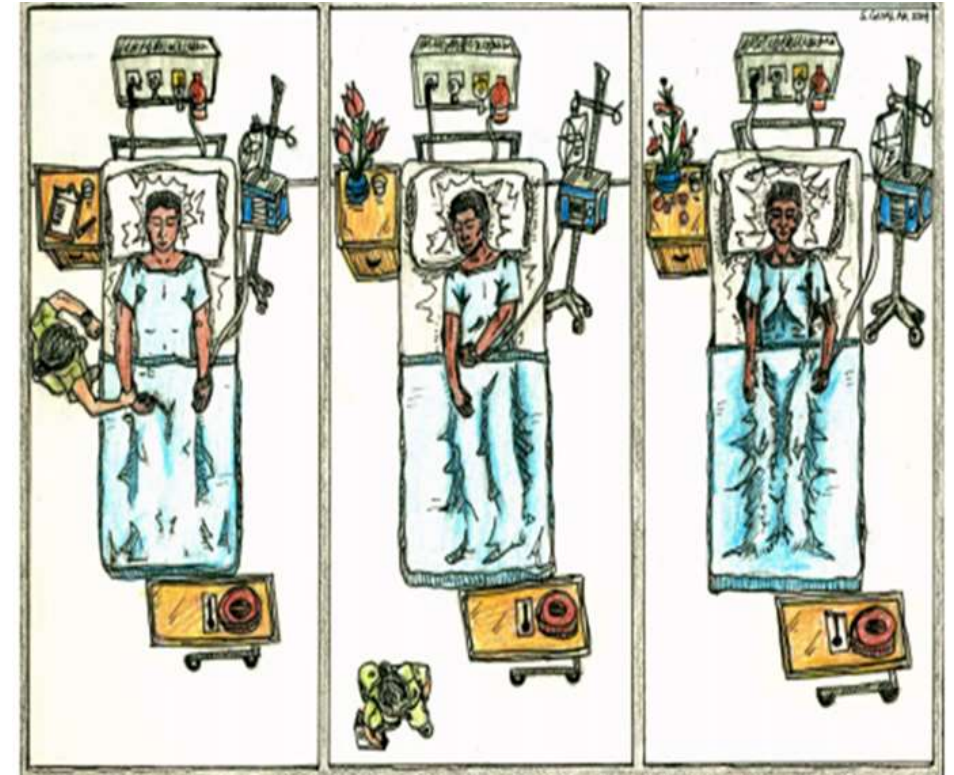
CLINICAL NUTRITION CARE

The Malnutrition Carousel



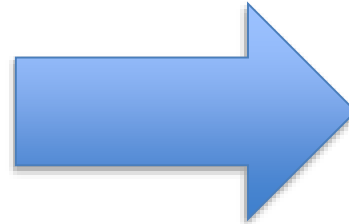
IMPACT ON CLINICAL NUTRITION CARE

- Individualized nutrition care and in-hospital guidelines and capacity.(Bunyani et al. 2015)
- Attention to adult nutrition care
- Nutrition counselling services in NCD outpatient clinics
- Opportunity for referral and management system for nutrition issues in hospitals at all levels



CLINICAL NUTRITION AND COVID-19

- Need for specialized nutrition for ventilated patients.
- Physical distancing affecting food provision in hospitalized patients- food service is complemented by home food.
- Scaling down of NCD outpatient service provision- Initial visits only.
- Physical distance may affect access to nutritious food.



DIETITIANS must be part of COVID-19 response at the facility level in order to address both immediate and enduring nutrition challenges posed by COVID-19. (Chimera et al. 2020)

TRAINING PROGRAMS

- Globally evolving nutrition problems create evident need for capacity building; nutrition professionals and local institutions.
- Community vs Clinical capacity
 - Challenges facing Africa with regard to nutrition professionals are more acute with respect to dietitians than for nutritionists in general. (Oyewole et al. 2013)
 - More community nutrition interventions as compared to clinical nutrition intervention



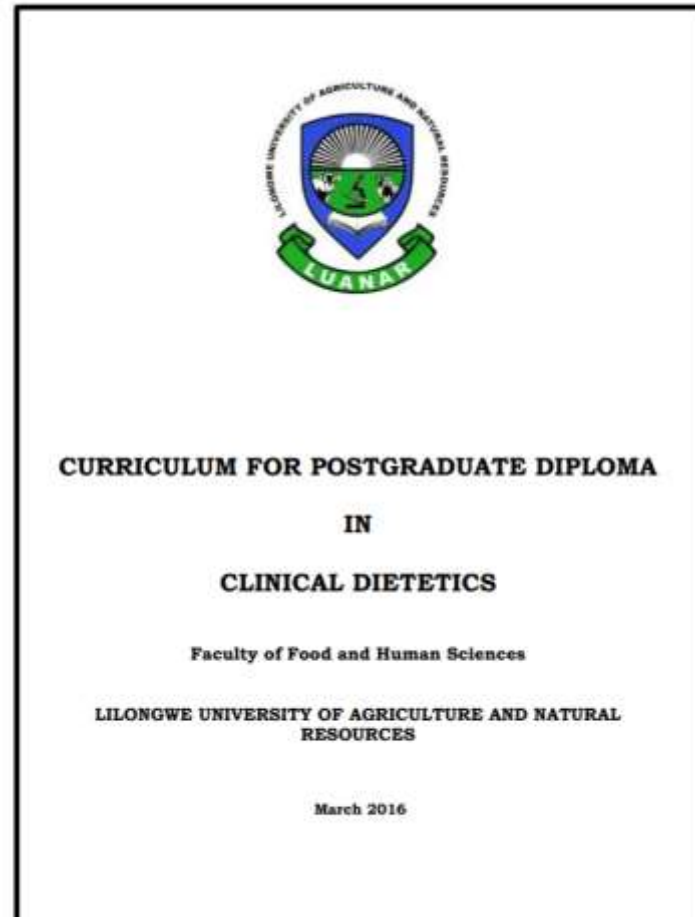
DIETETICS IN AFRICA

- 60% of African countries do not have RD training programs
- Handful of countries have standards of practice, code of ethics, credentialing requirements and scope of practice of dietitians
- Most countries lack opportunities and policies on continuous professional development
- **Very high dietitian to patient ratios in most African countries**



Low	Medium	High	Very High		
USA	Australia	South Africa	Zimbabwe	Ghana	Malawi
22/100 000	6.5/100 000	1.6/100 000	0.12/100 00	0.02/100 000	0.06/100 000

Hwala N et al. 2004 East Med Health Journal, 10,(6)





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



Nutrition Capacity Development to Meet National Priorities

Dr. Lynne M. Ausman, D.Sc., R.D.

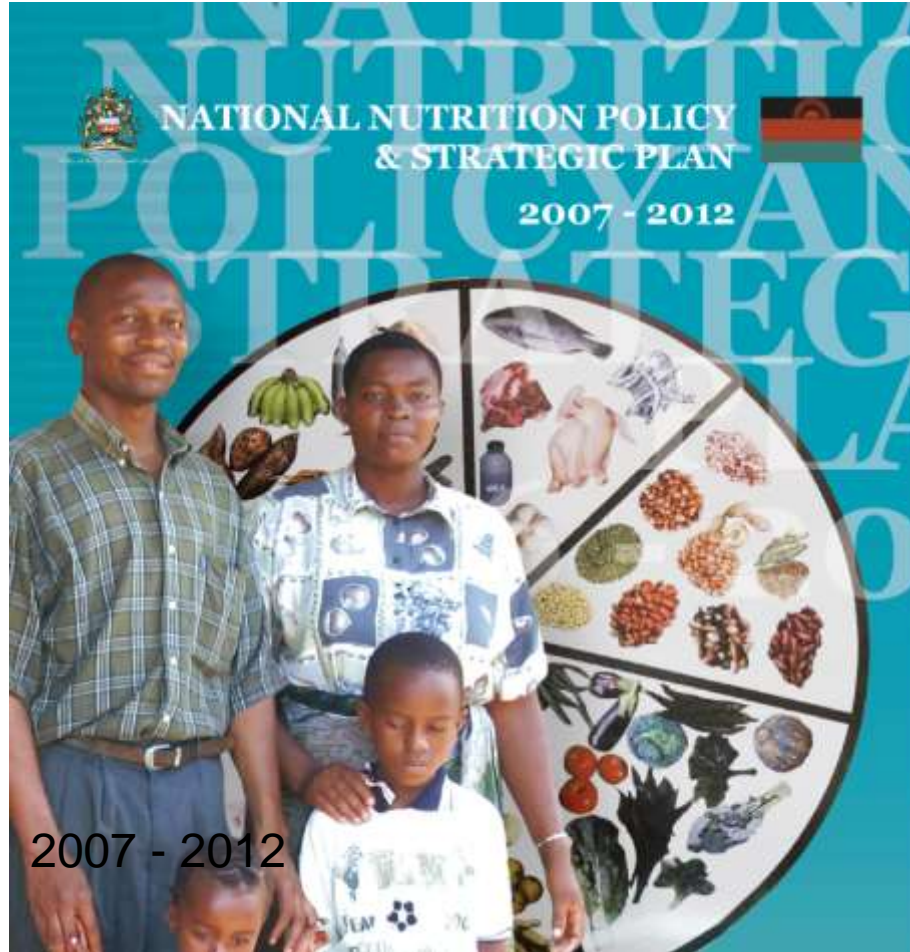
Saqir bin Mohammed Al Qasimi Professor in International Nutrition at the Friedman School, Tufts University; a Fellow in the American Society of Nutrition; and a Registered Dietitian





FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



2007 - 2012

NATIONAL NUTRITION POLICY & STRATEGIC PLAN 2007 -2012

Republic of Malawi
Office of the President & Cabinet
Department of Nutrition, HIV and
AIDS
Private Bag 301
Lilongwe



USAID
FROM THE AMERICAN PEOPLE



REGISTERED DIETITIAN (RD)

- A medical professional qualified to **assess, diagnose and treat** dietary and nutrition related problems at an **individual and public-health** level
- Set course curriculum and clinical training rotations
- Only nutrition experts regulated by law. Licensed to practice with “RD” title
- Governed by a code of ethics

IDENTIFY STAKEHOLDERS AND NEEDS ASSESSMENT

2012 - 2013

- Ministry of Health
- Ministry of Agriculture
- Principal, College of Medicine
- Tertiary and secondary hospitals
- NGOs
- Academic Institutions
- Food and Agricultural Organization

2013 - GETTING STARTED

Identification of Lilongwe University of Agriculture and Natural Resources (LUANAR) as Appropriate Site for Program

Identification of Resources and Faculty to Develop the Program

Grant from USAID to Nutrition Innovation lab at Tufts University to Help LUANAR Faculty Design the Program Structure

DEVELOPING A STANDARD CURRICULUM 2013 – 2015

- Working standard of requirements based on **Competencies** from International Dietetics Association, as well as Dietetics Associations in Ghana, South Africa, Britain, Australia and USA
- Consultation with stakeholders
- Identification of available resources, within and outside LUANAR
- Approval at Department and LUANAR Senate Levels

ACCREDITATION AT MEDICAL COUNCIL OF MALAWI 2015 - 2016

- No roadmap for dietetic program accreditation
- Followed sample for medical and allied health programs
- Worked with consultant for proper formatting (many drafts)
- Achieved final accreditation February 2016

CURRICULUM STRUCTURE

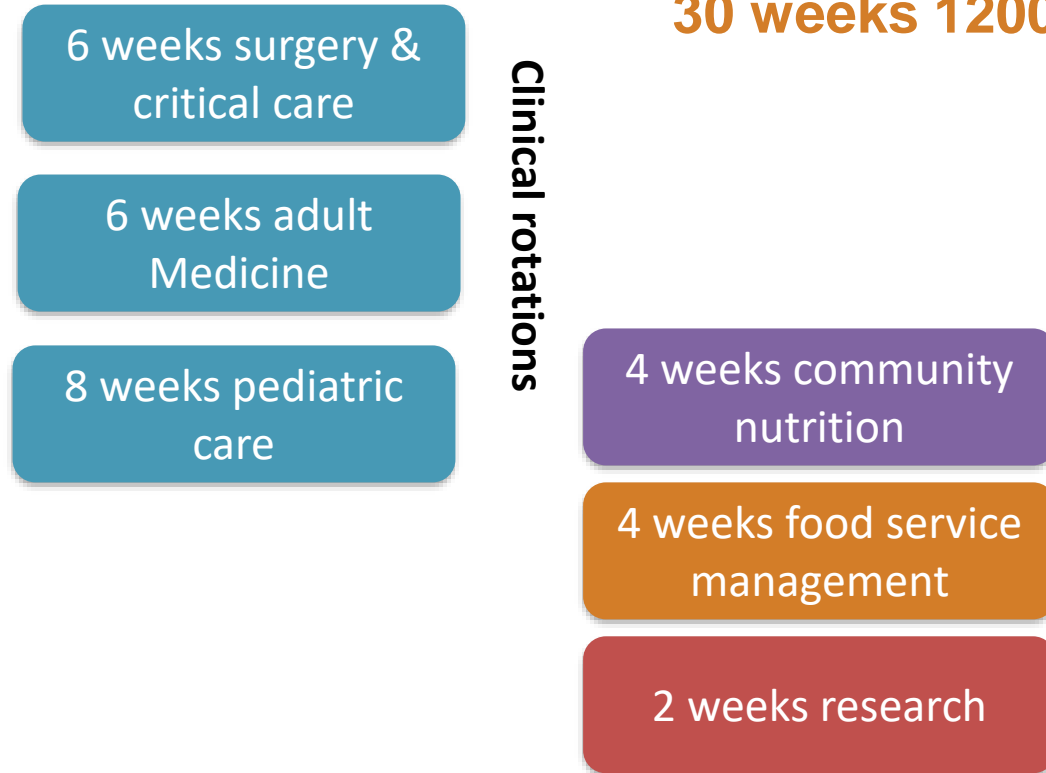
20 months postgraduate diploma
30 weeks classroom time

- Medical Nutrition Therapy 1 & 2
- Nutritional Biochemistry 1& 2
- Nutritional Epidemiology
- Nutritional Counselling & Behaviour Change
- Biometric Research Methods & Design
- Biostatistical Data Analysis
- Global Nutrition Programs
- Health Care Ethics

CURRICULUM STRUCTURE

Practical placement under supervision

30 weeks 1200 hours



The structured learning experience

1. Conferences/workshops

- Journal clubs
- Seminars
- Practical trainings/workshops

Medical/surgical rounds/ grand rounds

2. Independent study

- Literature reviews
- Community and food service projects
- Clinical case presentations
- Research development

COURSE AND PROGRAM EVALUATION

After 1st Cohort

- Course & program evaluation
- Identify challenges and suggest changes for next group
- Added a writing module and bridging course on medical terminology before starting

After 2nd cohort

- Program evaluation by dietetics professionals outside LUANAR and COM. Currently underway. Content and sustainability

Malawi's First Dietetics Program: Key achievements, lessons learned and future directions

Sanele Nkomani, MS, RD

Supervising Dietitian for Malawi's first Dietetics training program, based at the Lilongwe University of Agriculture and Natural Resources (LUANAR) and supported by the Feed the Future Innovation Lab for Nutrition through USAID funding



KEY ACHIEVEMENTS

Dietetics training

Standardized curriculum, clinical internships have been established

Capacity building of health professionals

407 health professionals from 10 Malawian institutions have received clinical nutrition training

Dietetic practice

Registered Dietitians are employed at Malawi's first dietetics department

Institutional capacity building

Dietetics training for faculty
Mentoring of future instructor/preceptor/program leader roles

STUDENT ACHIEVEMENTS

Developing clinical nutrition services

Capacity building

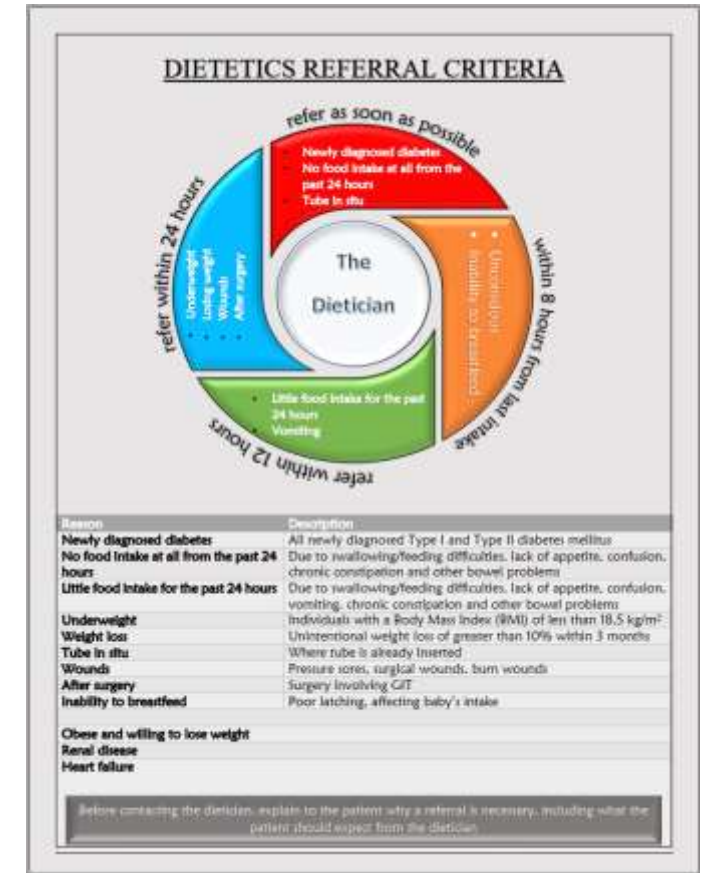
- Journal clubs
- In service trainings
- Case presentations

Quality improvement

- New therapeutic menus
- Feeding protocols developed
- Dietetics referral criteria
- Food service hygiene audit

Impact of Feeding Interval on Time to Achieve Full Oral Feeding in Preterm Infants: A Randomized Trial

Post Graduate Diploma In Clinical Dietetics
Journal Club



SEVERE RD SHORTAGE IN AFRICA

African nutrition context

Undernutrition remains a major public health concern

Overweight/obesity and NCDs are rising exponentially

Limited hospital-based nutrition interventions

60% of African countries don't have training programs

LESSONS LEARNED

Developing a program that responds directly to Malawian needs

- Comprehensive scoping
- Nutrition and health policy/strategic plan analysis
- Needs assessment
- Early and sustained engagement with government and other stakeholders



Program responds directly to the Malawi skills gap

- NCD prevention and management focused
- Clinical nutrition/hospital-based intervention focused
- Clinical nutrition research skills focused

LESSONS LEARNED

Advocacy and stakeholder engagement

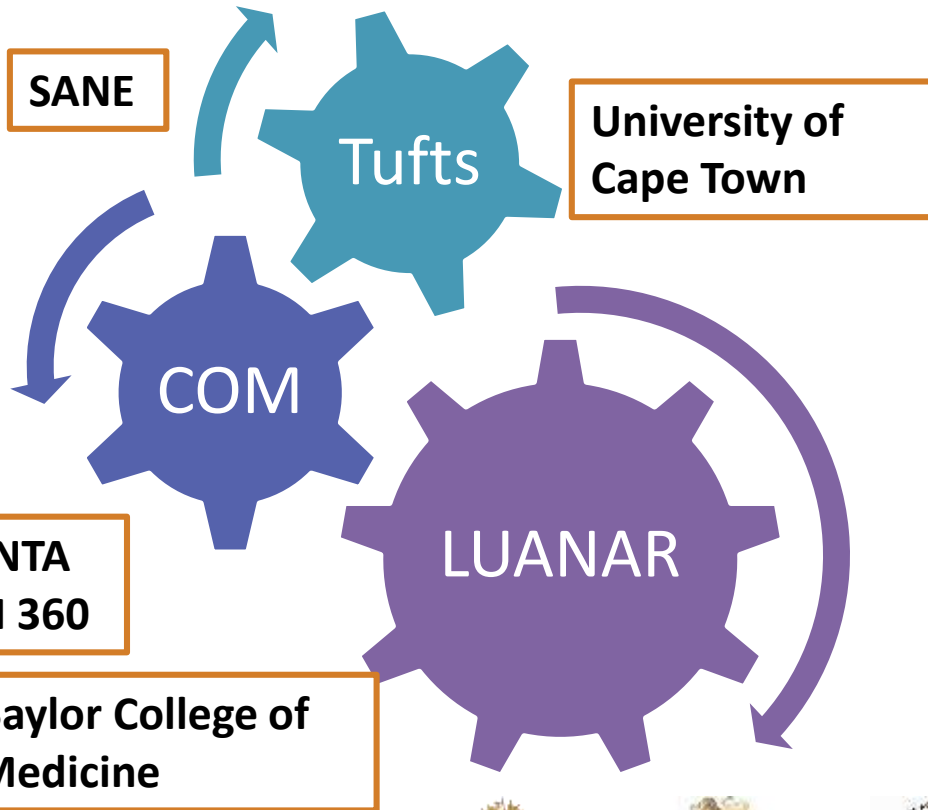
- Accurately identify all levels decision makers, influencers and other stakeholder
- Frequent awareness and sensitization of the role of dietitians
- Keep stakeholders engaged through updates and status reports
- Joint site visits with government decision makers



- Creation of dietetics posts in government and career path
 - ✓ 27 new post at tertiary hospital level
- Increased applications for dietetics program
 - ✓ 3-fold increase from 1st to 2nd cohort

LESSONS LEARNED

Leveraging strengths of local, regional and global partnerships



- **The Core partnership**
 - ✓ Community/public nutrition from LUANAR
 - ✓ Biomedical sciences and clinical experience from COM
 - ✓ Dietetics, leadership and coordination from Tufts
- **Other partners**
 - ✓ Provided preceptor support
 - ✓ Benchmarking of standards of training
 - ✓ Raised the quality of training
 - ✓ Mentorship

FUTURE DIRECTIONS

Training and research capacity

Sustain and expand training

- ✓ Mentor dietetic instructors, preceptors, researchers and leaders
- ✓ Increase graduate output to build a critical mass
- ✓ Support the implementation of an undergraduate program
- ✓ Support dietetics specialization

Develop dietetics research agenda

- ✓ Strong focus on future dietetics researchers
- ✓ Establishment of a nutrition center of excellence at LUANAR

FUTURE DIRECTIONS

Building a profession

Regulation of practice

- Establishment of a vibrant dietetic association
- Parliamentary Act to protect the title “Registered Dietitian”
- Enact standards for dietetics program and requirements for registration
- Enact code of ethics and scope of practice



FUTURE DIRECTIONS

CREATING A CONDUCTIVE PRACTICE ENVIROMENT

- **Policy support for optimal dietetic practice**
 - ✓ Resource allocation for dietetic support services, procurement of equipment and nutrition support
- **Equitable distribution of dietetics services**
 - ✓ Establish more clinical nutrition departments at all central hospitals and cascade down to districts, particularly in rural areas

My overall feeling is honor, and I am very excited to be one the pioneers of this program in Malawi. I feel extremely happy to be a dietitian trained in Malawi, because to me I feel the best dietitian for Malawians is a Malawian dietitian, trained in Malawi, and who can understand what Malawians want for their health.

Humphrey Chatenga RD

1st cohort graduate





JANET GUTA

Deputy Director Nutrition Management for the
Health Sector in the Government of Malawi



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



DR. TINNA MANANI

Dean, Faculty of Food and Human Sciences at
Lilongwe University of Agriculture and Natural
Resources (LUANAR)





DR. ALEXANDER KALIMBIRA

Associate Professor and Head of the
Department of Human Nutrition and Health at
Lilongwe University of Agriculture and Natural
Resources (LUANAR)



DR. JOHN PHUKA

Dean, School of Public Health and Family Medicine,
College of Medicine, University of Malawi



FEED^{THE}FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Q&A

THANK YOU

- Upcoming webinar – **Malawi's First Food Composition Table: The development and use of food composition data**, October 21st at 9:00 am (ET)
- To register for any of these events, you can visit **NutritionInnovationLab.org** or **AdvancingNutrition.org**.
- Recordings and slides for each webinar will also be posted on our websites.



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

www.feedthefuture.gov

